

a first hole, formed through the base board, including an insulating portion filled with an insulator; and

a pair of second holes formed within the first hole through the insulating portion.

4. (Amended) A wiring board comprising:

a base board;

a first hole, formed through the base board, including an insulating portion filled with an insulator; and

a pair of second holes formed within the first hole through the insulating portion,

wherein a shortest length of the insulator filled between the pair of the second holes is shorter than a shortest length of the insulator filled between the first hole and one of the second holes.

5. (Amended) The wiring board according to claim 1,

wherein the insulating portion is filled with an insulator which has a higher dielectric constant than an insulator in the insulating layers.

7. (Amended) The wiring board according to claim 1,

wherein the second holes are formed through the insulating layers,

wherein the conductor layers include at least two pairs of wiring patterns formed on the upper surface and the lower surface of the base board,

wherein the pair of the second holes connects the two pairs of the wiring patterns,

wherein the pair of the second holes is formed by calculating a diameter of the pair of the second holes and a length between the pair of the second holes based on an impedance of the pair of the second holes and an impedance of the two pairs of the wiring patterns.

8. (Amended) The wiring board according to claim 1,

wherein the conductor layers are coated with a conducting material.

9. (Amended) The wiring board according to claim 8,
wherein the first hole is formed at least through the two conductor layers,
wherein the pair of the second holes is formed by forming the insulating layers on an upper surface and a lower surface of the two conductor layers, forming a plurality of wiring patterns on an upper surface and a lower surface of the insulating layer, and forming holes through at least five layers of the two conductor layers, two insulating layers, and the at least one of the power layer and ground layer.

14. (Amended) A wiring board comprising:
a base board;
a first hole, formed through the base board, including an insulating portion filled with an insulator; and
a pair of second holes formed within the first hole through the insulating portion,
wherein each of the second holes includes a conducting portion for transmitting a differential signal,
wherein a shortest length of the insulator filled between the pair of the second holes is shorter than a shortest length of the insulator filled between the first hole and one of the second holes.

15. (Amended) A wiring board comprising:
a base board;
a first hole, formed through the base board, including an insulating portion filled with an insulator; and
a pair of second holes formed within the first hole through the insulating portion,
wherein the pair of the second holes is located symmetrical to each other with respect to a center axis of the first hole for forming a coaxial structure,

wherein a shortest length of the insulator filled between the pair of the second holes is shorter than a shortest length of the insulator filled between the first hole and one of the second holes.

16. (Amended) The wiring board according to claim 2,
wherein the insulating portion is filled with an insulator which has a higher dielectric constant than an insulator in the insulating layers.

17. (Amended) The wiring board according to claim 3,
wherein the insulating portion is filled with an insulator which has a higher dielectric constant than an insulator in the insulating layers.

18. (Amended) The wiring board according to claim 4,
wherein the insulating portion is filled with an insulator which has a higher dielectric constant than an insulator in the insulating layers.

19. (Amended) The wiring board according to claim 3,
wherein the second holes are formed through the insulating layers,
wherein the conducting layers include at least two pairs of wiring patterns formed on the upper surface and the lower surface of the base board,
wherein the pair of the second holes connects the two pairs of the wiring patterns,
wherein the pair of the second holes is formed by calculating a diameter of the pair of the second holes and a length between the pair of the second holes based on an impedance of the pair of the second holes and an impedance of the two pairs of the wiring patterns.

20. (Amended) The wiring board according to claim 3,
wherein the conductor layers are coated with a conducting material.